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Flat rate manual Motorcycles

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R 45

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R 65

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BMW MOTORRAD GMBH
München



Foreword

This manual is a provisional edition of the BMW R 45/R 65 flat rate manual and contains the most important work times (WT) for the new model series.

At the time of going to press some of the WT units were not available for work descriptions which had already been printed. These will be sent to you in the Service Information bulletins and should be entered in the manual by hand.

All details regarding the breakdown and application of the work time units can be taken from the Introduction in the Flat Rate Manual, Order No. C1 60 9 798 060. This full line edition (R 50/5 - R 100 RS) can be used for orientation in those cases where the work time units are not available for the new models.

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00 00 009	Free pre-delivery check (excluding unpacking and cleaning = WT)	16
00 00 119	1st Service at 1000 km (app. 600 miles)	28
00 00 139	BMW Service every 7500 km (5000 miles)	24
00 00 149	BMW Inspection every 15000 km (10000 miles)	39
00 00 199	Engine Inspection Includes: all necessary work, e.g. changing engine oil and renewing oil filter, removing, installing and cleaning oil sump and oil mesh strainer. Cleaning air cleaner element and both carburetors. Taking up slack at nuts or bolts on engine, oil sump, exhaust system, cylinders and cylinder heads. Adjusting valve clearances. Checking spark plugs, timing ignition. Adjusting clutch operating clearance, regulating engine idle speed and fuel-air mixture.	
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OO 11 289 Changing oil in final drive	3
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11	ENGINE	a) R 45 b) R 65
11 00 039	Testing compression Includes: removing and installing spark plugs	5
539	Testing compression (for job No. 11 00 009)	2
11 00 050	Removing and installing engine Includes: removing and installing fuel tank, gearbox, and exhaust system. Cleaning exterior of engine. Draining and filling up engine oil. Regulating engine idle speed and fuel-air mixture.	49
11 00 051	Installing exchange engine Includes: removing and installing engine, adding engine oil, preparing old engine for shipment.	53
11 00 103	Stripping and assembling engine Includes: removing and installing engine, clamping to and detaching from assembly stand, detaching and attaching oil sump. Removing, installing and cleaning oil mesh strainer and suction head, removing, installing and cleaning flywheel. Detaching and attaching timing chain cover and both cylinders. Cleaning parts, checking for wear. Measuring both cylinders and pistons, all bearings, both main bearing shells and connecting rods. Measuring crankshaft endplay, eliminating play with shims.	124
603	Stripping and assembling engine (engine removed)	75

11	ENGINE	a) R 45 b) R 65
11 11 001	<p>Renewing engine block</p> <p>Includes: removing and installing engine. Clamping engine to and detaching from assembly stand. Detaching and attaching oil sump. Removing, installing and cleaning oil mesh strainer and suction pipe. Detaching and attaching flywheel and timing chain cover. Removing and installing/cleaning both cylinders. Cleaning parts and checking for wear. Measuring both cylinders and pistons, all bearing points on crankshaft and big end bearings. Measuring crankshaft endplay, eliminating with shims. Stamping in new engine number.</p>	124
11 11 050	<p>Removing and installing or renewing left or right cylinder</p> <p>Includes: detaching and attaching/cleaning cylinder. Measuring cylinder and piston. Adjusting valve clearances. Regulating engine idle speed and fuel-air mixture.</p>	19
700	<p>Removing and installing or renewing left or right cylinder (engine removed)</p>	9
11 11 061	<p>Renewing left or right cylinder base and cylinder head gaskets</p> <p>Includes: Detaching and attaching/cleaning cylinders. Measuring cylinders and piston. Adjusting valve clearances. Regulating engine idle speed and fuel-air mixture.</p>	19
711	<p>Renewing left or right cylinder base and cylinder head gaskets (engine removed)</p>	9

11	ENGINE	a) R 45 b) R 65
11 11 120	<p>Removing and installing or renewing both cylinders</p> <p>Includes: detaching and attaching/cleaning sealing faces for both cylinders. Measuring cylinders and pistons. Adjusting valve clearances. Regulating engine idle speed and fuel-air mixture.</p>	26
740	<p>Removing and installing or renewing both cylinders (engine removed)</p>	17
11 11 131	<p>Renewing both cylinder base and cylinder head gaskets</p> <p>Includes: detaching and attaching/cleaning sealing faces for both cylinders. Measuring cylinders and pistons. Adjusting valve clearances. Regulating engine idle speed and fuel-air mixture.</p>	26
751	<p>Renewing both cylinder base and cylinder head gaskets (engine removed)</p>	17
11 12 009	<p>Taking up slack at cylinder head bolts</p> <p>Includes: detaching and attaching both rocker covers/renewing gaskets. Adjusting valve clearances.</p>	6
11 12 030	<p>Detaching and attaching/sealing or renewing left or right rocker cover</p>	2
11 12 050	<p>Detaching and attaching/sealing or renewing both rocker covers</p>	3

11	ENGINE	a) R 45 b) R 65
11 12 070	Removing and installing left or right cylinder head Includes: detaching and attaching/cleaning cylinder head, renewing gasket. Adjusting valve clearances. Regulating engine idle speed and fuel-air mixture.	16
11 12 071	Renewing left or right cylinder head gasket Includes: detaching and attaching/cleaning cylinder head, renewing gasket. Adjusting valve clearances. Regulating engine idle speed and fuel-air mixture.	16
11 12 090	Removing and installing both cylinder heads	25
11 12 091	Renewing both cylinder head gaskets	25
11 12 123	Stripping and assembling left or right cylinder head, grinding in all valves Includes: removing and installing both valves. Grinding in both valves. Checking pressure leak past both valves. 513 Stripping and assembling one cylinder head, grinding in all valves (complete cylinder head removed)	
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11	ENGINE	a) R 45 b) R 65
11 12 157	<p>Regrinding all valve seats and valves</p> <p>Includes: removing and installing both cylinder heads, stripping and assembling.</p> <p>537 Regrinding two valve seats (cylinder head stripped)</p> <p>557 Regrinding all valve seats (cylinder heads stripped)</p> <p>561 Renewing one valve guide (cylinder head stripped)</p> <p>571 Renewing two valve guides (cylinder head stripped)</p> <p>591 Renewing all valve guides (cylinder heads stripped)</p> <p>607 Regrinding all valve seats and valves (cylinder heads stripped)</p>	
11 12 181	<p>Renewing left or right cylinder head</p> <p>Includes: removing and installing left or right cylinder head. Grinding in both valves. Checking both valves for pressure leaks.</p> <p>660 Detaching and attaching left or right cylinder head or renewing cylinder head gasket (engine removed)</p> <p>680 Detaching and attaching both cylinder heads or renewing both cylinder head gaskets (engine removed)</p>	
11 12 201	Renewing both cylinder heads	

11	ENGINE	a) R 45 b) R 65
11 12 212	Reconditioning complete left or right cylinder head Includes: removing and installing, stripping and assembling left or right cylinder head. Regrinding valve seats. Skimming cylinder head sealing face. 682 Reconditioning complete left or right cylinder head (cylinder head removed)	
11 12 232	Reconditioning both complete cylinder heads	
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739	Skimming sealing face of one cylinder head (cylinder head stripped)	
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11 13 000	Detaching and attaching/sealing or renewing oil sump Includes: draining and refilling engine oil	7
500	Detaching and attaching/sealing or renewing oil sump (engine removed)	4
11 41 ...		
650	Removing and installing or renewing oil pump suction head (oil sump detached)	1

11	ENGINE	a) R 45 b) R 65
11 14 000	Detaching and attaching or renewing engine cover	2
11 14 031	Renewing starter cover Includes: detaching and attaching fuel tank.	3
11 14 060	Detaching and attaching/sealing timing chain cover Includes: removing and installing complete exhaust system. Adjusting breaker points gap and timing ignition.	22
800	Detaching and attaching/sealing timing chain cover (engine removed)	10
11 14 ... 651	Renewing crankshaft radial sealing ring in timing chain cover (timing chain cover removed)	1
11 41 ... 603	Stripping and assembling oil pressure relief valve (timing chain cover removed)	3
11 14 061	Renewing timing chain cover Includes: detaching and attaching timing chain cover.	23

11	ENGINE	a) R 45 b) R 65
11 14 151	Renewing crankshaft radial sealing ring (clutch end) Includes: removing and installing gearbox, removing, installing and cleaning flywheel.	33
601	Renewing crankshaft radial sealing ring (clutch end) (engine removed)	9
611	Renewing crankshaft radial sealing ring (clutch end) (flywheel removed)	1
11 15 101	Renewing engine breather hose	4
11 15 111	Renewing diaphragm valve for engine breather	6
11 21 001	Renewing crankshaft Includes: removing engine, clamping into assembly stand, removing and installing oil sump, flywheel and timing chain cover. Removing, installing and cleaning both cylinders. Cleaning parts, checking for wear. Measuring all bearing points on crankshaft, both main bearing shells and big end bearings. Measuring crankshaft endplay, adjusting if necessary. Renewing gaskets and all other parts if defective.	
501	Renewing crankshaft (engine stripped)	
531	Renewing all main bearings (engine stripped)	
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11	ENGINE	a) R 45 b) R 65
11 22 000	Removing and installing or renewing flywheel Includes: removing and installing gearbox.	32
511	Removing and installing or removing flywheel (gearbox removed)	8
11 24 000	Removing and installing or renewing left or right connecting rod Includes: removing and installing cylinder. Removing and installing/ cleaning and measuring connecting rod and bearing shells.	22
11 24 030	Removing and installing or renewing both connecting rods	32
531	Renewing bearing shells for one big end (engine stripped or connecting rod removed)	
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601	Renewing one big end bearing shell (connecting rod removed)	1
611	Renewing both small end bushings (connecting rods removed)	2
11 25 000	Removing and installing or renewing all pistons Includes: removing and installing both cylinders. Measuring cylinders, pistons and small end bearings.	28

11	ENGINE	a) R 45 b) R 65
11 25 020	<p>Removing and installing or renewing left or right piston</p> <p>Includes: measuring cylinder, piston and small end bushing</p> <p>651 Renewing piston rings for one piston</p> <p>671 Renewing piston rings for all pistons</p>	21
11 31 001	<p>Renewing camshaft</p> <p>Includes: removing and installing timing chain cover, both cylinders and tappets</p> <p>510 Renewing camshaft (engine removed)</p>	
11 31 061	<p>Renewing timing chain sprockets</p> <p>Includes: removing and installing engine. Clamping engine into and removing from assembly stand. Removing and installing flywheel, timing chain cover and both cylinders.</p> <p>671 Renewing timing chain sprockets (engine removed)</p>	
11 31 080	<p>Removing and installing or renewing complete chain tensioner</p> <p>Includes: detaching and attaching timing chain cover.</p> <p>630 Removing and installing or renewing complete chain tensioner (timing chain cover detached)</p>	

11	ENGINE	a) R 45 b) R 65
11 32 001	Renewing one left or right pushrod Includes: adjusting valve clearances.	
11 32 041	Renewing both left or right pushrods Includes: adjusting valve clearances.	
11 32 061	Renewing all pushrods Includes: adjusting valve clearances.	
11 32 100	Removing and installing or renewing tappet for left or right inlet or exhaust valve Includes: removing and installing cylinder.	
11 32 140	Removing and installing or renewing both left or right tappets Includes: removing and installing cylinder.	
11 32 160	Removing and installing or renewing all tappets Includes: removing and installing both cylinders.	

11	ENGINE	a) R 45 b) R 65
11 33 200	Renewing one rocker shaft or one rocker for left or right inlet or exhaust valve Includes: adjusting valve clearances.	
640	Removing and installing or renewing one rocker shaft or one rocker (cylinder head detached)	
11 33 240	Removing and installing or renewing both left or right rocker shafts or rockers Includes: adjusting valve clearances.	
660	Removing and installing or renewing rocker shafts in one cylinder head (cylinder head detached)	
11 33 280	Removing and installing or renewing all rocker shafts and all rockers Includes: adjusting valve clearances.	
680	Removing and installing or renewing rocker shafts in both cylinder heads (cylinder heads detached)	
11 34 004	Adjusting valve clearances	5
504	Adjusting valve clearances (rocker covers detached)	2
11 34 100	Removing and installing left or right inlet or exhaust valve spring Includes: removing and installing left or right cylinder head.	

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11 34 150	Removing and installing or renewing both left or right valve springs	
11 34 170	Removing and installing or renewing all valve springs	
11 41 000	Removing and installing or renewing oil pump Includes: removing and installing gearbox. Cleaning engine block. Checking oil level, adding oil if necessary.	
11 42 090	Detaching and attaching/sealing or renewing external cover for full-flow oil filter	
11 42 101	Renewing full-flow oil filter element Includes: checking oil level, adding oil if necessary.	

12	ENGINE - ELECTRICAL	a) R 45 b) R 65
12 00 009	Checking ignition system (with engine tester) Includes: checking battery, spark plugs, both coils, ignition leads and caps for good insulation and continuity. Checking ignition condenser. Adjusting breaker points gap, timing ignition.	WT
12 11 004	Timing ignition Includes: checking and adjusting breaker points.	3
12 11 060	Removing and installing or renewing centrifugal ignition control Includes: checking and adjusting breaker points, timing ignition.	5
12 11 141	Renewing breaker points Includes: adjusting breaker points gap, timing ignition.	4
601	Renewing breaker points (engine cover detached)	2
12 11 169	Checking ignition condenser (with engine tester)	WT
641	Renewing ignition condenser (engine cover detached)	1
12 11 171	Renewing ignition condenser	2

12	ENGINE - ELECTRICAL	a) R 45 b) R 65
12 12 009	Checking spark plugs Includes: adjusting electrode gaps	2
12 12 011	Renewing all spark plugs Includes: checking electrode gaps, adjusting if necessary.	2
511	Renewing all spark plugs (for job No. 11 00 009)	1
12 12 019	Checking ignition leads and ignition lead caps (with engine tester)	WT
12 12 021	Renewing one ignition lead Includes: removing and installing fuel tank	2
531	Renewing one ignition lead (for job No. 11 00 009)	1
12 12 041	Renewing all ignition leads Includes: removing and installing fuel tank.	3
541	Renewing all ignition leads (for job No. 11 00 009)	2
12 13 089	Checking both coils (with engine tester) Includes: removing and installing fuel tank.	WT

12	ENGINE - ELECTRICAL	a) R 45 b) R 65
12 13 100	Removing and installing or renewing left or right coil	3
501	Renewing one coil (for job No. 11 00 009) (fuel tank detached)	1
12 31 009	Checking generator and voltage regulator Includes: connecting and disconnecting tester.	WT
12 31 020	Removing and installing or renewing generator	4
521	Renewing generator (for job No. 11 00 009)	2
12 31 170	Removing and installing or renewing generator diode board	3
670	Removing and installing or renewing diode board (engine cover detached)	2
12 31 201	Renewing generator carbon brushes Includes: skimming sliprings to a fine finish.	7
12 32 000	Removing and installing or renewing generator voltage regulator	3

12 ENGINE - ELECTRICAL	a) R 45 b) R 65
12 41 009 Checking starter (with engine tester) Includes: checking battery. Checking voltage drop in starter cable, starter short-circuit current consumption and voltage drop at battery	WT
12 41 020 Removing and installing or renewing starter	7
12 41 041 Renewing starter engagement solenoid	9
12 41 103 Stripping and assembling starter Includes: removing and installing starter and engagement solenoid. Cleaning parts, checking for wear. Checking operation.	16

13	MIXTURE PREPARATION AND REGULATION	a) R 45 b) R 65
13 00 004	Regulating engine idle speed and fuel-air mixture Includes: synchronizing carburetors, adjusting both throttle cables.	4
604	Regulating engine idle speed and fuel-air mixture (for job No. 11 00 009)	2
13 10 004	Checking and adjusting fuel level at both carburetors Includes: removing and installing both carburetors.	11
13 10 009	Cleaning both carburetors Includes: removing and installing both carburetors. Regulating engine idle speed and fuel-air mixture.	18
13 10 080	Removing and installing or renewing left or right carburetor Includes: regulating engine idle speed and fuel-air mixture.	7
13 10 100	Removing and installing or renewing both carburetors Includes: regulating engine idle speed and fuel-air mixture.	10
13 10 110	Removing and installing or renewing jet needle for left or right carburetor Includes: regulating engine idle speed and fuel-air mixture.	9

13	MIXTURE PREPARATION AND REGULATION	a) R 45 b) R 65
13 10 130	Removing and installing or renewing jet needle at both carburetors Includes: regulating engine idle speed and fuel-air mixture.	14
13 10 170	Removing and installing or renewing throttle slide for left carburetor	-
13 10 190	Removing and installing or renewing throttle slides at both carburetors	-
13 10 231	Renewing diaphragm at plunger for left or right carburetor Includes: regulating engine idle speed and fuel-air mixture.	-
13 10 251	Renewing diaphragms for plungers of both carburetors Includes: regulating engine idle speed and fuel-air mixture.	-
13 10 260	Detaching and attaching/sealing or renewing float chamber for left or right carburetor	1
13 10 280	Detaching and attaching/sealing or renewing float chambers of both carburetors	2

13	MIXTURE PREPARATION AND REGULATION	a) R 45 b) R 65
13 10 290	Removing and installing or renewing float for left or right carburetor Includes: removing and installing carburetor.	-
13 10 310	Removing and installing or renewing floats for both carburetors Includes: removing and installing carburetors	-
13 10 321	Renewing float needle for left or right carburetor	-
13 10 341	Renewing float needles of both carburetors	-
13 10 350	Detaching and attaching or renewing choke housing on left or right carburetor Includes: removing and installing carburetor.	8
13 10 370	Detaching and attaching or renewing choke housings of both carburetors Includes: removing and installing carburetors.	12
13 11 ... 562	Reconditioning one carburetor (carburetor removed)	5
13 23 004	Adjusting both choke control cables.	2

13	MIXTURE PREPARATION AND REGULATION	a) R 45 b) R 65
13 23 041	Renewing cables for left or right choke control Includes: disconnecting and connecting cables at choke levers. Adjusting cables	10
13 23 061	Renewing both choke control cables	10
13 23 080	Removing and installing or renewing complete choke control mechanisms with cables Includes: detaching and attaching both cables at the carburetor choke levers. Adjusting both cables.	10
13 72 000	Removing and installing or renewing air cleaner element	4
13 72 170	Removing and installing/sealing or renewing left or right intake air pipe	2
13 72 190	Removing and installing or renewing both intake air pipes	3
13 72 241	Renewing rubber sleeve between carburetor and left or right cylinder head	4
13 72 261	Renewing both rubber sleeves between carburetors and cylinder heads	6